

REMARKS

Claims 1-27 and 29 are pending in the present application. Claim 28 was previously canceled. Claims 1, 17-19, and 29 have been amended. No new matter has been added. Applicant respectfully requests reconsideration of the claims in view of the following remarks.

Claim 29 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. While the language of claim 29 appears clear to Applicant, to facilitate the prosecution of the case, Applicant has amended the claim to address Examiner's rejection. Applicant requests Examiner to withdraw the rejection.

Claims 1-4, 7, 9, 14 and 16-17 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Lee (U.S. Patent No. 6,759,335, hereinafter "Lee"). Applicant respectfully traverses this rejection.

Claim 1, as currently amended, specifically recites "forming a vertical silicon layer having a bottom surface extending conformally over the sidewalls of the trench to continuously cover at least a lower portion of the sidewalls and the bottom of the trench." Lee does not teach or suggest forming a vertical silicon layer having a bottom surface extending conformally over the sidewalls of the trench to continuously cover at least a *lower portion of the sidewalls* and the bottom of the trench. Rather, Lee teaches forming a polysilicon layer that covers only a small middle portion of the trench. See, Lee, Figure 6, polysilicon 62 around label 60.

Claim 1, as currently amended, specifically recites that "the vertical silicon layer [has] an exposed surface opposite the bottom surface." Lee does not teach or suggest that the exposed surface is opposite to the bottom surface. Rather, the exposed surface is the bottom surface. See, Lee, Figure 6 showing polysilicon 62 has a surface with a top exposed portion but the portion of

the surface that is parallel to the trench sidewalls is the bottom surface of the polysilicon 62. In other words, the surface Examiner asserts as the exposed surface is *not* exposed. In view of the above discussion, claim 1 is allowable.

Claims 2-17 depend from claim 1 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claims 5, 6, 8, 10-13 and 18-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee, in view of Chung, *et al.* (U.S. Patent No. 6,734,106, hereinafter "Chung"). Applicant respectfully traverses this rejection.

Claim 18, as currently amended, specifically recites "depositing a silicon layer having a bottom surface in contact with and continuously and conformally covering at least a lower portion of the sidewalls and a top surface of the node dielectric" and "the silicon layer having an exposed surface opposite the bottom surface." Lee, singly or in combination with Chung, does not teach or suggest forming a silicon layer having a bottom surface extending conformally over the sidewalls of the trench to continuously cover at least a *lower portion of the sidewalls* and the bottom of the trench. Rather, Lee teaches forming a polysilicon layer that covers only a small middle portion of the trench. See, Lee, Figure 6, polysilicon 62 around label 60.

Lee also does not teach or suggest that the exposed surface is opposite to the bottom surface. Rather, the exposed surface is the bottom surface. See, Lee, Figure 6 showing polysilicon 62 has a surface with a top exposed portion but the portion of the surface that is parallel to the trench sidewalls is the bottom surface of the polysilicon 62. In other words, the surface Examiner asserts as the exposed surface is *not* exposed. Chung also does not cure this deficiency. In view of the above discussion, claim 18 is allowable.

Claims 19-27 depend from claim 18 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claim 29 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee. Applicant respectfully traverses this rejection.

Claim 29, as currently amended, specifically recites "forming a continuous and conformal silicon liner, a bottom surface of the silicon liner covering at least a portion of the top surface of the node dielectric." Lee, singly or in combination with Chung, does not teach or suggest forming a silicon liner. Rather, Lee teaches forming a cap layer (polysilicon layer 62 in Figure 6 of Lee) on a fill material (silicon layer 54). Further, the polysilicon layer 62 covers only a small middle portion of the trench. Lee also does not teach that a bottom surface of the silicon liner covers at least a portion of the top surface of the node dielectric. Moreover, the polysilicon 62 does not cover any node dielectric. Rather, it covers another silicon layer 54. See, Lee, Figure 6.

Lee also does not teach or suggest that the exposed surface is opposite to the bottom surface. Rather, the exposed surface is the bottom surface. See, Lee, Figure 6 showing polysilicon 62 has a surface with a top exposed portion but the portion of the surface that is parallel to the trench sidewalls is the bottom surface of the polysilicon 62. In other words, the surface Examiner asserts as the exposed surface is *not* exposed. In view of the above discussion, claim 18 is allowable.

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Ira S. Matsil, Applicant's Attorney, at 972-732-1001 so that such issues may be resolved as expeditiously as possible. The Commissioner is hereby authorized to charge any fees that are due, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

6/8/09

Date

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